DOCUMENT RESUME

ED 134 803 CE 009 912

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TITLE	Implications of the New Vocational Education Legislation for Program Research and Development. Occasional Paper No. 23.
INSTITUTION	Ohio State Univ., Columbus. Center for Vocational Education.
PUB DATE	Dec 76
NOTE	13p.
AVAILABLE FROM	Center for Vocational Education, Ohio State University, Columbus, Ohio 43210 ($1.75)
EDRS PRICE	MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS	Career Education; Educational Change; *Educational Development; *Educational Legislation; Educational Policy; *Educational Research; *Federal Legislation; Federal Programs; Management; Occupational Guidance; Program Improvement; Speeches; *Vocational Education

ABSTRACT

Half of this paper is the text of a lecture based on the author's observation regarding the structure, nature, and emphasis of vocational research activities as affected by the Education Amendments of 1976. Focus is on consolidation, program improvement, low risk activities, research and development emphasis, and vocational research and development as a vocational subsystem. Specific areas in which vocational education research and development are to direct attention are also discussed: Populations, staff concerns, management elements, and career guidance as an area of emphasis. The second half of the paper consists of the author's answers to 10 questions from the audience of educational research and development personnel. (HD)

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Occasional Paper No. 23

IMPLICATIONS OF THE NEW VOCATIONAL EDUCATION LEGISLATION FOR PROGRAM RESEARCH AND DEVELOPMENT

by

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The Center for Vocational Education
The Ohio State University
Columbus, Ohio

December 1976

CE 009 912

PREFACE

The Center for Vocational Education is indebted to Dr. James G. Bottoms for his lecture entitled "Implications of the New Vocational Education Legislation for Program Research and Development." In his presentation, Dr. Bottoms outlines the provisions of the Educational Amendments of 1976 and the implications for vocational education research and development at the state and national level. He further depicts the specific areas in which vocational education research and development are to direct attention including (1) populations, (2) staff concerns, (3) instructional areas, (4) management elements, and (5) career guidance.

Dr. Bottoms is the director of the Division of Program and Staff Development which provides leadership for vocational teacher education; vocational teacher certification; vocational research, development, and demonstration activities; vocational student assessment; and coordination of career activities. He has been instrumental in Georgia's development and implementation of: (1) a system of student personnel services for vocational-technical schools; (2) a revised curriculum framework for comprehensive high schools; (3) individualized instructional materials; (4) prevocational instructional programs for the several vocational services; (5) community-based, career exploration for middle school students; and (6) coordinated vocational and academic programs for the disadvantaged and handicapped.

Dr. Bottoms has developed and chaired national seminars, worked with the U.S. Office of Education and The Center for Vocational Education at The Ohio State University. He currently chairs the U.S. Office of Education Task Force on Rural Education and serves on the ERIC Clearinghouse Advisory Council on Career and Vocational Education. Dr. Bottoms has published articles in two *AVA Yearbooks* and in three issues of the *American Vocational Journal* for which he served as coordinating editor.

He presently is serving as president of the American Vocational Association and has served on the AVA Board of Directors since 1965. Dr. Bottoms has served as a member of and program chairman for the Guidance Division of AVA, as well as the division's representative on the *American Vocational Journal* Board of Editors.

On behalf of The Center and The Ohio State University, I take pleasure in presenting Dr. Bottoms' lecture, "Implications of the New Vocational Education Legislation for Program Research and Development."

Robert E. Taylor
Director
The Center for Vocational Education

IMPLICATION OF THE NEW VOCATIONAL EDUCATION LEGISLATION FOR PROGRAM RESEARCH AND DEVELOPMENT

by Dr. James G. Bottoms

Through the Vocational Amendments of 1976, Congress has given structure and direction to vocational education research and development. A number of observations can be made that have implications for research and development activities in vocational education from a study of the amendments, the corresponding reports issued by the House and Senate Committee on Education and Labor, and the Joint House and Senate Conference Report.

Observation Regarding the Structure, Nature, and Emphasis of Vocational Research Activities

Consolidation

One of the most striking differences between the Vocational Education Amendments of 1976 and those of 1968 is the consolidation of research, exemplary and innovative programs, curriculum development and staff development into a single category. Where each of these activities in the past had categorical funding, under the new amendments the state plan will set forth how funds are to be expended, while the commissioner will determine allocations for programs of national significance. The reason for the consolidations, as stated by the House Committee on Education and Labor, was that the separate programs in the past had too frequently operated in isolation without any continuity from research, to demonstration, to implementation (House Report No. 94-1085, p. 44). Thus the implication is clear at both the state and national level that a comprehensive and incremental program must emerge for moving validated practices and products into widespread use. The achievement of this intent necessitates that: (a) researchers, developers, and program managers be in agreement on the problem areas to be addressed and on the proposed strategies for resolving the problems; (b) researchers, in formulating solutions, consider the availability of dollars needed to implement; (c) program managers be willing to commit funds to implement valid improvement activities; (d) plans for addressing a problem area include the phases of research, development, demonstration, demonstration/training, and adoption to which both the researcher and program manager are committed; and (e) effort be targeted on a few areas of concern.

Program Improvement

The new Vocational Amendments of 1976 stress immediate program improvement as the single major concern for programs of research and development. For both the state and national program only those projects are to be funded that show a reasonable probability that they will result in improved teaching techniques or curriculum materials within five years after the termination date of such project. Thus Congress has placed emphasis on using available dollars for applied research,

rather than research to generate new and basic knowledge. Through the legislation, Congress reflected a concern over the quality of vocational programs and intended that research and development resources be used to improve program effectiveness.

The House Committee reflected a concern that vocational practitioners were unaware of research and development products, that some vocational research and development products were not packaged in usable form, and that personal contact between researcher and user was limited. To achieve the program improvement intent of the new legislation it is necessary, first, that national and state program managers develop a reason for local managers of vocational education to search out and implement improved practices and products that address their major needs. This is a problem that should receive the attention of researchers. As long as vocational programs at the local level receive allocations of funds each year regardless of program effectiveness, why should managers of vocational programs seek and implement improvement activities? Second, achievement of the improvement intent will require that researchers and program managers reorient their thinking regarding the widespread implementation of research products. The strategies employed must go far beyond a "paper" approach to dissemination. The strategies should be multidimensional and must include: (a) personal contact between adopter site and demonstration site; (b) brief popular version materials for dissemination; (c) start-up cost for adopter sites to cover materials and staff development; (d) comprehensive planning by adopter sites that includes the steps of needs identification, analysis of causes of major need, study of alternative validated products or practices, selection of most appropriate alternatives, and formulation of a detailed implementation plan; (e) maintaining demonstration site to train personnel from adopter/adapter sites; and (f) a national system for screening, selecting, cataloging, and disseminating those validated projects that meet standards required for application in other settings. Congress intended that the scope of research and development activities should be concentrated, and that valid projects, products, and practices be followed through to widespread implementation.

Low Risk Activities

The new legislation places emphasis on research and development activities that have high potential for succeeding. Research and development activities are to be closed-ended rather than open-ended; no where is this clearer than in the described nature of applications to be funded. States are limited to contracts in funding research, exemplary and innovative programs, and curriculum development, and may use either grants or contracts for vocational education personnel training. Funds under the programs of national significance are to be used primarily by the commissioner for contracts, and only in limited cases are they to be used for grants. By limiting research and development activities to grants, Congress intended to require greater precision from the applicants in describing what they proposed to achieve and greater accountability from them during the time of the contract (p. 45 House Report No. 94-1085, May 4, 1976). Under such an arrangement, applicants will be responding to a structured request for a proposal, where there is already considerable agreement regarding the solution of the problem. The emphasis will be on development, demonstration, and validation of a given solution rather than generating and testing several possible solutions.

Research and Development Emphasis

The need for research and development activities are emphasized in virtually every major section of the amendments. Table I contains those research and development activities identified within each section of the amendments. Through the amendments, Congress stressed that a priority be placed on

the use of federal dollars by the states to extend and improve vocational education. Thus the 20 percent of the basic state grants to be expended for improvement activities is intended to be minimum, and it is expected that states will expend an even greater amount of their state grants on improvement activities. Further, Table I identifies those sections of the amendments with funding that can be used for research and development. The intent is that the tools of research and development be used by vocational education policy makers, managers, planners, and evaluators as a means to improve program effectiveness at the classroom level, especially for those persons with special needs.

Vocational Research and Development to be a Vocational Subsystem

The new legislation maintains an emphasis on research and development at both the state and national level. Further, the amendments maintain vocational education research and development as a subsystem within the program of vocational education. At the state level, program improvement activities are to be an integral part of the state plan.

At the national level, funds can be used (a) to support any activity of national significance authorized under subpart 3 of the amendments; (b) to support a national center for research in vocational education; (c) to construct curriculum materials developed for the Armed Services for use by public and non-profit vocational programs.

The legislation sets forth a structure for administering vocational research and development activities at the national level. First, the commissioner is to fund a national center which shall be non-profit and which shall be assisted by an advisory committee appointed by the commissioner. This center either directly or through other agencies shall conduct a planned program of research and development. A significant assignment given to the national center is to develop and provide information to facilitate national planning and policy development in vocational education.

To carry out other program improvement activities of national significance, the U.S. Commissioner is to be assisted by a coordinating committee. The coordinating committee is to be composed of the director of the National Institute of Education, the commissioner, and the director of fund for the Improvement of Post-Secondary Education. The coordinating committee shall develop a plan for each fiscal year that maximizes resources toward national priorities so as to avoid duplication of efforts.

Observation Regarding a Research and Development Agenda

Populations to Receive Emphasis

The Vocational Amendments of 1976 provide considerable emphasis on activities that would improve the effectiveness of vocational education in serving disadvantaged and handicapped youth and adults. This would include unemployed youth, youth and adults from areas of high unemployment and geographical areas sparsely populated. Considerable importance is given to serving female youth and adults in vocational programs that have traditionally been for members of the opposite sex. Some emphasis is given to post-secondary students and to all students in relation to determining program effectiveness. The charge for research and development is to pursue improvement activities that increase the potential of vocational education to meet the needs of special students and to serve female students in non-traditional programs.

Table I

Research and Development Emphasis within New Vocational Education Amendments of 1976

Program		R & D Activities and Emphasis	
1.	Basic State Grants (Sec. 120)	1.1	Reduce sex stereotyping and sex discrimination in vocational education.
		1.2	Development of state planning information: employment projections, enrollment projections, program effectiveness, and efficiency information.
		1.3	Develop model programs to reduce sex stereotyping in all occupations.
		1.4	Develop model programs for serving disadvantaged and handicapped students in regular vocational education programs.
		1.5	Conduct program evaluation to determine if graduates obtained employment related to their training and to determine if employer considered them well trained.
		1.6	Conduct supplementary demonstration projects related to energy education.
2.	Program Improvement and Supportive Services (Sec. 130)	2.1	Comprehensive plans of program improvement involving applied research and development in vocational education.
	A—Research (Sec. 131)	2.2	Experimental, developmental, and pilot programs to test effectiveness of research findings, including programs to overcome sex bias and stereotyping.
		2.3	Improved curriculum materials and new materials for new and emerging job fields.
		2.4	Projects in the development of new careers and occupations.
		2.5	Dissemination of R & D project results.
		2.6	All approved projects must demonstrate reasonable probability that within five years it will result in improved teaching techniques or curriculum materials.
	B—Exemplary and Innovative (Sec. 132)	2.7	Funds may be used for development of high quality programs for urban centers with high concentration of disadvantaged.
		2.8	Development of programs for persons in sparsely populated areas.
		2.9	Development of programs for persons of limited English speaking ability.
		2.10	Improved correlation between vocational education and projected labor market needs.
		2.11	Programs to broaden occupational aspiration and opportunities of youth especially disadvantaged and handicapped.
		2.12	Projects to familiarize K-twelve students with broad range of occupations, their skill requirements, and training requisites.
		2.13	Projects to facilitate participation of employers and labor organizations in post-secondary vocational education.
		2.14	Projects to reduce sex stereotyping.
	C—Curriculum Development (Sec. 133)	2.15	Development and dissemination of new curriculum materials for new and changing occupational fields and for persons with special needs.
		2.16	Development of curriculum and guidance and testing materials to overcome sex bias.
3.	Consumer and Homemaking (Sec. 150)	3.1	Research, development, demonstration, curriculum, or evaluation activities that would assure quality in homemaking education.

Table I (Continued)

Program		R & D Activities and Emphasis	
4.	National Advisory Council (Sec. 162)	4.1	Conduct such studies as necessary to formulate appropriate recommendations.
		4.2	Conduct independent evaluations of programs.
5.	State Advisory Council (Sec. 105)	5.1	Conduct an evaluation of vocational education programs, services, and activities.
6.	Programs of National Significance	6.1	Support a national center for vocational education research.
		6.2	Conduct applied research and development on problems of national significance in vocational education.
		6.3	Provide leadership development on advanced study center and in-service education activities for state and local vocational leaders.
		6.4	Disseminate results of projects funded.
		6.5	Develop and provide information to facilitate national planning and policy development in vocational education.
		6.6	Develop methods for program evaluation including follow-up studies.
		6.7	Convert Armed Services curriculum materials for use by public and private vocational programs.
		6.8	Grants made can demonstrate a reasonable probability that such grant will result in improved teaching techniques or curriculum materials in a substantial number of classrooms or other learning situations within five years.
7.	Bilingual Training	7.1	Develop instructional material, methods, or techniques for bilingual vocational training.
		7.2	Research in bilingual vocational training.
		7.3	Projects to make known research findings.
		7.4	Projects designed to test the effectiveness of research findings.

Staff Concerns to Receive Emphasis

From the emphasis in the 1976 Amendments on improving teaching skills and techniques, one could deduct several possible areas of major research and development activities: (a) competency based preservice and in-service education; (b) development and use of reliable and valid instruments to assess on-job performance of vocational teachers as a basis for improvement; (c) development and demonstration of a performance based certification system for vocational teachers; (d) identification and validation of those teaching skills that facilitate student learning; (e) identification and validation of those teaching skills that enable vocational teachers to serve students with special needs in regular programs and female students in traditional programs; and (f) development and demonstration of preservice and in-service training designs that result in teachers demonstrating expected skills on the job, and that result in administrators, teachers, and counselors overcoming sex stereotyping and discrimination. Further, the emphasis given in the 1976 Amendments to the democratization of vocational education will require the development and demonstration of training activities designed to prepare state and local leaders to involve others in state and local planning and to provide visionary leadership in maintaining effective programs, in developing and expanding programs in areas of needs, and in continually searching for ways to improve program effectiveness.

Instructional Areas to Receive Emphasis

The Vocational Amendments of 1976 give emphasis to research and development activities having to do with curriculum structuring, curriculum development, and curriculum delivery. First, from the legislation it is clear that Congress expects vocational curriculum to be structured so that most disadvantaged and handicapped students are served in regular programs. Second, it is expected that validated curriculum materials will be developed for both the teacher and student in the areas of energy education, new and emerging fields, new careers in public service, and homemaking education. Priority is to be given to modifying and updating existing curriculums in order to overcome sex bias, and to serve disadvantaged and handicapped students. A concern was expressed for the development of curriculum materials to broadening the aspirations and opportunities for disadvantaged and handicapped youth and adults. Finally, there is a provision to develop and demonstrate valid vocational curriculum delivery systems for youth and adults in sparsely populated areas.

Management Elements to Receive Emphasis

The need for research and development to enhance the capabilities of managers of vocational education in decision-making, planning, and leadership is emphasized in the new legislation at the national, state, and local levels. The agenda for management improvement at the national level includes: (a) having an independent evaluation made of vocational education; (b) providing information to facilitate national planning and policy development; and (c) development of models for program evaluation and information systems. At the state level the research and development agenda for managers includes: (a) development of model programs to reduce sex stereotyping and to serve disadvantaged and handicapped students in regular programs; (b) development of model programs to serve youth and adults in urban centers and sparsely populated areas; (c) conducting follow-up studies of graduates and evaluation studies of programs; (d) improved data base regarding manpower projections, enrollment projections, program, and cost effectiveness; (e) development and demonstration of model procedures and skills for involving others in planning vocational programs; and (f) development of model strategies for stimulating local managers to seek out and implement improvement activities. The research and development agenda to assist local managers of vocational education includes: (a) manager skills and tools for instructional improvement at the building level, and the involvement of others in program planning and evaluation; (b) development and demonstration of model procedures for obtaining and utilizing follow-up data for program improvement, for considering, selecting, and adopting or adapting validated curriculums, instructional products, and teaching skills; and (c) validated procedures for revising policies, curriculum, instructional materials, staff, and community attitudes regarding sex bias.

Career Guidance an Area of Emphasis

The new Vocational Education Amendments establish a precise agenda for research and development activities as related to career guidance. Emphasis is to be given to development of model programs to overcome sex stereotyping and to broaden occupational aspirations of youth, especially for those who are disadvantaged and handicapped. The emphasis is to be limited to model programs but is to include the development of materials and instruments that overcome sex bias. The focus is on using the curriculum as a means to broaden the experiences of K-twelve students with occupational offerings and as a means to improve career decision-making of youth and adults. Considerable research and development will be required if valid, reliable, and adaptable curriculum structures and materials are to emerge.

QUESTIONS AND ANSWERS

Question: How is the current proposed legislation contracting the horizons of vocational education as compared to the Vocational Education Amendments of 1968? How is the vocational education community going to assimilate these changes?

Well, it seems to me that in terms of some of the kinds of expansion you talked about in the 1968 Amendments that the House Bill moves to a much narrower focus than was set forth then. In fact, we at AVA feel that the House Bill definition of vocational education is much to narrow. We're pushing for the broader definition which maintains the broader concept which is set forth in the 1968 Amendment. Part of the issue is whether or not vocational education will continue to deal with the several dimensions of career development—preparation, planning, decision-making, orientation, and placement. Now, certainly, there is, as you indicated, an attempt to focus on an expansion of vocational education in terms of settings, and in terms of the women's equity movement. In my judgment there is not going to be any decrease in the emphasis on vocational education that is designed both to help an individual identify with adult work roles and with responsibilities expected as an adult, and is designed to prepare individuals to obtain employment. I think that emphasis will continue, the very nature of work in our society and the very nature of growing up in our society will result in that kind of emphasis continuing. Now I believe in states which failed to provide adequate vocational education at the post-secondary level, the new legislation will require them to do so. There's just too many persons in need of vocational education at the post-secondary level. In states where we have limited vocational education to area technical schools, we cannot continue to ignore those thousands of youth in two-year colleges who need and want vocational education. We must make provisions for joint programs.

I believe that the threads pertaining to career guidance, career education, vocational education, and manpower education will eventually come together as a single delivery system that deals with initial and continued preparation of individuals for work. Even in higher education, I think you're finding more of an emphasis there to draw upon the methods and approaches of vocational education. For instance, higher education institutions are placing more emphasis on experimental learning. The need for experimental learning in higher education was expressed by a group of UNESCO scholars when they pointed out that a major problem of the western world is the over emphasis on abstract knowledge, as opposed to its application. Through traditional education youth are exposed to such a vast amount of knowledge for which they do not have the experiences to relate the knowledge. That one reason is why so many youth do not see the meaning in their education. In the future, you will see an increased movement in higher education to implement the vocational education methods and process.

Question: What are the implications for personnel development in the legislation?

In my judgment the new legislation will continue the 552 program on a national priority while the 553 program will be administered through the state plan.

Question: What is the position of AVA in bringing together the various elements of manpower programs into a single piece of legislation?

Through AVA resolution we have a commitment to bring together those aspects of eduction dealing with the preparation for work. At this time we do not have a unified, conceptual approach. This whole area of preparation for work needs to be looked at and brought together at the national level in terms of national priority and I think this is the point I was trying to raise as I looked at the agenda for research and development.

At this time we don't have a good answer to the Governor's question regarding how a comprehensive program to prepare persons for work would fit into the total education scheme, nor what the design of such a comprehensive approach ought to be. We need to put our best minds at work thinking about this. As we have a press in this country for dollars, there will be an emphasis on consolidating programs with common purposes and we don't have a scheme for doing this yet. That's the direction we're moving in and that's the kind of agenda that this center ought to begin to address.

Question: How do you see the National Center and the states linking together to insure that local schools begin to adapt programs and materials in their own settings?

First, the paper dissemination of products will never result in widespread local adoptions; local program managers must have a reason to seek out and implement improvement practices. The state manager of vocational education must create the mechanism, the incentives that cause local school vocational managers to reexamine what they're doing and to identify problems they have and to go out and see how other people have solved those problems, to think through how they can, as they find solutions that other people have validated, plan to implement those in their own settings. Now, as long as that local director of vocational education is going to get his budget next year regardless of how good a job he's done this year, he has no reason to worry himself about trying to find a better way of doing things. The states must develop a process that causes the local administrator, the local system superintendent to reexamine and to look at new alternatives. Let me give you a parallel to this in our state that we've seen work- and I'm not saying that this is right. There are a lot of things wrong with it, but it's causing some movement. We tried to identify a few basic skills in reading and in math that by the end of the fourth grade we expect most students to have achieved unless they have some severe handicapped conditions. There are only twenty of these objectives. They were identified by teachers in the state. You could look over the list and you would finally conclude "well, golly, these are fundamental to education." Okay, we developed criterion-referenced tests to assess the extent to which students were achieving the objectives. After four years we have said to those systems whose students are not achieving, "we're going to classify you as a nonstandard school system until you can come up with an improvement plan to convince us—a team of people—that you have looked at this problem, that you've worked with your community and that you're trying to do something about it." This created the desire on the part of local systems to improve. To assist local systems, they could apply and receive, in alternate years, funds to implement improvement activities. We found they could get more out of a $15,000 grant than we could out of a $100,000 grant. The $15,000, we said to them, is for start-up costs to assist you to look at your problems, to look at why your students are not achieving up to par, to look at the possible causes, to look at what it's going to take to remove those causes, and to get in your car, get in an airplane and go to some places in the country where they have solved the problem. It's amazing how they will begin to redirect their funding resources and begin to examine some new alternatives. We don't tell them how to change or what to adapt, they think it through, but we try to provide the incentive

to cause them to want to do it. I don't know if that's the right approach or not but you know in the free market place, if you run in the red for a couple of years in a row, you'll start making some changes in your business so you'll get back in the black, but in a school system, regardless of how poor a job is done, the system still gets the same amount of state dollars they've always gotten. To get widespread adoption of validated vocational products will require that the state provide the incentive that causes local systems to want to change.

Question: Is AVA or some other agency pushing legislation concerning the need for basic research in vocational education?

That issue needs to be addressed by the vocational community, and we do need to push for both basic and applied research. I don't really understand the rationale behind the writers of the legislation. I have a feeling that they were assuming that NIE was going to produce the basic research, and that our role would be to adapt and take that knowledge and convert it into an appropriate design for vocational education. Research emphasis in the legislation should have been a little more open-ended—a little more emphasis on generating new knowledge. That emphasis is not there. We do need to address that point in the future legislation.

Question: What will be the trend toward establishing professional standards and licensing for vocational educators?

I don't know what the trend will be across the county, but it's an issue for vocational educators to address. A number of states have established professional standards commissions that, in some instances, have set standards for certification. Now that has implications for the certification of vocational teachers.

At present in most states, the responsibility for licensing educators, rests with the state board of education. Under the approved program concept we have virtually abdicated that responsibility to the colleges, and we've got a little paper agreement that, if you run through those sets of experiences, we'll certify them. Now it's kind of hard for somebody to keep a student for four years, give them a degree from the institution, and then not recommend them for a teaching certificate. It seldom happens. As consequence of the open door admission policy, some institutions are graduating folks and recommending them to be certified as teachers when they shouldn't be. It is not unusual to find a person who gets through a teacher education program who just doesn't have either the knowledge or the professional skills required to be an effective teacher. After three years of trying to deal with this, we decided to separate, in part, the function of preparation and certification. At present we are in the process of developing a certification system to implement this concept.

Question: What are some of the non-traditional alternative curriculum approaches that should be used in vocational education?

We've always had difficulty in how to deliver comprehensive programs of vocational offerings in sparsely populated rural areas. One alternative is to go to an area center. In some of the western states that would not be an acceptable alternative. We don't have a good solution to this problem; that is why research and development needs to address it. We probably will need to make greater use of the community for preparational purposes. I had the feeling that Congress intends for us to make greater use of the industrial setting for vocational education.

Question: What is the role of the state and local vocational education advisory councils in the legislation?

The legislation mandates local advisory committees; the role of the state advisory council is expanded.

Question: How do you deal with the problem of acceptance of committees of women in traditional male occupational roles?

Well, you've done a good job in identifying and further defining the dimensions of the R & D questions that are implied in the legislation. From the legislation, you almost get the feeling that in five years we're going to look bad in vocational education if we have not substantially changed the male/female ratio in certain of our occupational areas. That intent comes through loud and clear.

Question: Does the emphasis on women's roles in occupations have to be approached from the standpoint of vocational curriculum or also in guidance and decision-making training?

It would have to be approached in both curriculum and guidance. The legislation emphasizes a role for R & D to develop means to assess educational materials regarding sex stereotyping. Yes, there is certainly an emphasis on guidance, on exploration kind of activities to introduce girls to traditionally boys' courses and boys to traditional courses for girls as part of that activity. One of the priorities set forth for career guidance and counseling is to assist you to think through sex stereotypes and I think as a center in vocational education you have a major role. I'm concerned that AVA looks at this issue and at the value issues involved. We need to set forth some principles on which exploration and orientation programs ought to be based, as we need to set forth those activities that will break down stereotypes and ignorance about different occupations. The legislation concerned me because it left me with the impression that they're not just talking about making folks free of stereotypes and barriers of ignorance so they are free to choose; the legislation leaves me with the impression that we better recruit them. We better get our ratio of boys up in our traditional girls' occupations and we better get our ratio of girls up in our traditional male occupations. It's almost a kind of recruitment to push students into non-traditional roles. That concerns me. We need some excellent leadership to sex stereotyping in vocational education.

It seems to me that school ought to look at its own curriculum, the experiences that are provided children and youth as part of growing up. Some of these experiences should enable young people to look at these different alternatives, to break through the stereotypes of sex. This effort will have to be closely tied to the home. Now if you think by the passing of this piece of legislation that you're going to change the value structure of many of the American families in this country and we in vocational education are going to do it, we're kidding ourselves. I don't know how much you're willing to take on. I'm willing to devise a curriculum. I'm willing to devise experiences that will allow youth to look and to examine, to think through, but I'm not sure that vocational education can change those family value structures. And that's the reason that as a national center, you have some responsibilities to help identify the issues and to help us think these through to some pretty solid principles on which we can base our activities. I don't believe that enlistment of women into traditional male roles is the approach. There must be an "educational approach" that leaves the individuals free to consider and choose.